SECTION VII.—THE WEATHER AND DATA FOR THE MONTH.

THE WEATHER OF JULY, 1918.

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PRESSURE AND WINDS.

The distribution of the mean atmospheric pressure over the United States and Canada and the prevailing direction of the winds for July, 1918, are graphically shown on Chart VII, while the means at the several stations, with the departures from the normal, are shown in Tables I and III.

The month opened with a storm central in the region of the Great Lakes, and with moderately high pressure prevailing in the middle and southern portions of the country between the Rocky and Appalachain Mountains and in the extreme eastern Canadian Provinces. Elsewhere atmospheric pressure was near the normal.

The pressure continued high in the south and the far eastern Canadian Provinces until about the middle of the first decade, and in the north it remained generally below the normal. During the latter half of the decade the conditions were nearly reversed, the pressure being above normal over much of the central and northern portions of the country while in the south it was usually slightly below the seasonal average. Pressure continued above the normal in the Central Valleys during much of the second decade, and was relatively low along the Atlantic coast and also in the far West until the latter part of the decade.

During the last decade of the month the pressure was nearly continuously above the normal over the northern and central districts to eastward of the Great Plains, while in the Rocky Mountain region and to the westward it was similarly below. The month closed with pressure above normal from the Great Lakes southwestward to the southern Rocky Mountain region, and low pressure was the rule along the Atlantic and Gulf coasts and over the far western districts.

For the month as a whole the pressure averages were above the normal throughout the entire country save over small areas in the Southeast and far Northwest. The region of greatest excess covered the northern and central districts from the Rocky Mountains to the Great Lakes.

The absence of marked pressure variations resulted in a month of light air movements, and no strong preponderence of winds from any particular direction was apparent, save in the Great Plains region, where they were mostly from southerly points. A few high winds were observed at exposed points along the immediate Pacific coast, where such winds are nearly constant, but elsewhere the month was notably free from winds of a destructive character.

TEMPERATURE.

At the beginning of July the weather was generally cool in the Lake region and central valleys, and rather warm in the mountain districts of the West. Temperatures somewhat above normal continued in the far West during most of the first decade, and in the central and eastern districts the weather continued cool. On the morning of the 3d, at points in the Middle and North Atlantic States, the temperature was as low as had been recorded previously in July, or lower, and on the following morning heavy frost occurred in the mountain districts of northern Wyoming. During the following few days the weather was unusually cool for the season in the region of the Great Lakes, but in the South high day temperature prevailed. Considerably cooler weather soon overspread the South Atlantic and East Gulf States and the decade closed with temperatures below the average generally from the Plains States eastward, especially in the central Appalachian Mountain district. During the next few days the temperature continued below the seasonal average east of the Rocky Mountains, except in the southern Plains States, and slightly above the normal to the westward. About the middle of the month warmer weather prevailed in the Atlantic Coast States and lower temperatures in the Northwest, while in Oklahoma and Texas the weather continued warmer. During the latter part of the second decade moderately cool weather prevailed in the region of the Great Lakes, but it was warmer in the Appalachian Mountains and over the Atlantic coast districts, and a rather marked rise in temperature occurred in the Central Plateau.

The early days of the third decade were marked by higher temperature in the central and northern districts from the Mississippi Valley eastward, but there was little change in the eastern districts during the succeeding few days. Much cooler weather moved in over the far Northwest, where the temperature fell to subnormal on the 24th. Toward the latter part of the decade cooler weather overspread the North Pacific coast, moved eastward to the Dakotas, and thence to the Lakes region by the end of the month. During this period temperature continued moderately high in the South, and it was generally above the normal in the far Southwest. The month closed with warmer weather in the far Northwest and extreme West, and with subnormal temperature generally east of the Rocky Mountains, especially from the Lakes region eastward, where some localities experienced the lowest July temperature of record, with light frost in exposed places in the extreme North.

As a whole July was warmer than normal in western New England and eastern New York, the central and southern portions of the Great Plains, in the western Gulf States, and generally in the far Northwest. From the Great Lakes southeastward to the Atlantic coast, and from the Dakotas southwestward to Arizona and southern California, the average temperature for the month was generally several degrees below the normal.

PRECIPITATION.

July opened with local showers in most districts from the Mississippi River eastward, with some heavy falls in the Lake region, but elsewhere fair weather prevailed. During the following few days heavy local rains occurred in southeastern Texas, and at a few points in the upper Mississippi Valley, and light showers occurred in Arizona and New Mexico. Toward the latter part of the first decade showers were general in the Ohio Valley and Tennessee and to the northeastward and southeastward, and in the central and northern districts from the Rocky Mountains westward. Early in the second decade much needed rain fell over the Atlantic Coast States from the Carolinas northward, also in the central and east Gulf States, and local showers were reported from many points in the Great Plains region and thence westward to the Plateau States. About the middle of the month rain was quite general in the upper Mississippi Valley and western Lake region, and also in the central Plains and portions of the Rocky Mountains section. During the latter part of the decade showers occurred in many districts from the Mississippi Valley eastward, the

amounts being rather generous over the east Gulf and South Atlantic States. During the early days of the third decade showers continued in the Southeast, and local rains occurred in the upper Lakes region, upper Mississippi Valley and northern and central Plains States, and at points in the Rocky Mountains and far Southwest. Toward the middle of the decade showers occurred in the South Atlantic States, from the lower Missouri Valley northeastward to the lower Lakes, and from North Dakota westward. From about the 26th to the 28th there was precipitation at many points east of the Mississippi River, and rain was quite general in the northern districts from the upper Mississippi Valley westward to the Pacific, the falls being generous in many localities and heavy in portions of Iowa and the Ohio Valley. Showers occurred during the last few days of the month in most localities from the central and southern Mississippi Valley eastward and northeastward, and light local rains occurred in the Plains regions and in Arizona and New Mexico.

For the month as a whole the precipitation was heavy over the eastern Florida Peninsula and generally along the Atlantic coast northward to North Carolina, and moderate to fairly heavy in most other sections east of the Rocky Mountains, except in the central Mississippi Valley and to the southwest and in portions of Virginia, Maryland, and the Lake region, where it was light. West of the Rocky Mountains the precipitation was also generally light, while considerable areas in California, Nevada, and Texas received no rain during the month.

RELATIVE HUMIDITY.

The humidity was relatively low from the upper Mississippi Valley and Middle and Southern Plains region eastward to the Atlantic coast, except over the extreme northeastern States. In the Southern Plains the humidity was notably low, and hot, drying winds were of frequent occurrence. The relative humidity was high in South Dakota, and it was generally above normal in the Rocky Mountain and Plateau districts and along the immediate Pacific coast.

GENERAL SUMMARY.

For July as a whole farm work progressed favorably in most sections. The harvesting of wheat and other small winter grains was very generally completed, and thrashing made good progress. Haying operations and the cultivation of corn and cotton were pursued without material hinderance. The weather was too cool in much of the east and northeast for the best growth of some crops and there was a decided lack of moisture in many sections during the entire month. Corn made fairly good progress in most districts during the first half of the month, although it was rather dry in some sections and cool in others. During the latter half the crop was unfavorably affected by lack of moisture in most States west of the Mississippi River, and in portions of Missouri, Kansas, Oklahoma, Arkansas, and Texas, much damage resulted. Elsewhere fair to good progress was made.

Cotton progressed favorably during the first decade of the month, and thereafter the growth was fair to good in the East, but high temperatures and dry weather west of the Mississippi River were unfavorable for the development of the crop. Spring wheat made good progress in most sections, but from central North Dakota westward the crop suffered from lack of moisture. Other grain crops made satisfactory development in most districts. The weather was generally favorable for potatoes over nothern and eastern districts, and truck crops, pastures, meadows, and fruit made generally satisfactory progress, although apples were reported as only fair to poor in parts of the central Appalachian region and the central Mississippi Valley.

SEVERE LOCAL STORMS.

The following notes of severe storms have been extracted from the official reports of the various States:

Indiana.—On July 28, 1918, about 4:15 p. m., a severe storm somewhat resembling a tornado occurred in a portion of the city of Terre Haute. The path of destruction was about one-third of a mile wide and nearly a mile long. Several small houses and other buildings were more or less demolished or partly unroofed, many trees broken off, and telegraph and other wires blown down. Estimated damage, $10,000.

North Carolina.—On July 12, 1918, very heavy hail damaged or destroyed crops at Holly Springs, Wake County, over an area 4 miles wide and 8 miles long. Hail fell to a depth of 6 inches for a width of 2 miles; within this area crops were completely destroyed, but only about one-fourth of the area was under cultivation. Some hail stones were found in protected places the second day after the storm. Estimated damage, $200,000.

Average accumulated departures for July, 1918.

Districts.	Temperature.			Precipitation.			Cloudiness.		Relative humidity.	
	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure from the normal.	General mean for the current month.	Departure from the normal.
	° F.	° F.	° F.	Ins.	Ins.	Ins.	0-10.		P. ct.	
New England	68.3	−0.5	− 9.3	2.70	−0.90	− 4.50	5.3	+0.2	83	+ 3
Middle Atlantic	72.6	−2.0	− 3.4	3.03	−1.30	− 2.20	5.1	+0.2	71	− 2
South Atlantic	75.7	−2.3	+ 2.7	4.85	−1.20	− 9.00	6.3	+1.5	75	− 4
Florida Peninsula	81.9	−0.4	+ 3.6	3.54	−2.90	−10.20	5.1	+0.1	74	− 4
East Gulf	79.0	−1.3	+ 6.0	3.09	−2.20	− 6.10	5.2	−0.2	71	− 7
West Gulf	83.0	+1.1	+ 5.0	0.90	−2.30	− 6.90	3.5	−0.8	64	− 9
Ohio Valley and Tennessee	73.6	−2.9	− 4.3	2.53	−1.50	− 4.10	5.2	+0.4	68	− 3
Lower Lakes	70.0	−1.7	− 6.5	2.07	−1.30	− 2.40	4.8	+0.2	68	− 2
Upper Lakes	66.3	−1.7	− 8.0	1.54	−1.60	− 1.80	4.4	−0.3	70	− 3
North Dakota	66.3	−2.8	+11.5	2.48	−0.50	− 3.20	4.5	+0.3	67	+ 1
Upper Mississippi Valley	73.9	−1.5	− 0.8	3.14	−0.60	− 2.50	4.6	+0.2	66	− 3
Missouri Valley	75.7	−0.1	+ 9.9	2.35	−1.40	− 4.40	4.6	+0.4	64	− 1
Northern slope	67.5	−0.6	+ 6.8	2.25	+0.60	+ 0.90	4.8	+1.1	59	+ 3
Middle slope	77.2	+0.4	+ 7.3	1.69	−1.30	− 1.30	4.4	+0.3	58	− 3
Southern slope	82.6	+2.2	+11.3	1.09	−1.70	− 4.40	3.2	−1.0	40	−11
Southern Plateau	77.9	−1.1	+ 1.4	1.00	−0.20	− 0.30	3.2	−0.2	43	+ 3
Middle Plateau	72.0	−0.8	+ 3.7	0.58	+0.10	− 1.10	3.5	+0.5	38	+ 2
Northern Plateau	72.5	+1.6	+13.8	0.77	+0.30	− 1.60	4.4	+1.6	42	− 1
North Pacific	62.0	0.0	+ 6.6	0.98	+0.30	− 3.30	5.6	+1.0	74	− 1
Middle Pacific	64.4	−1.1	+ 3.3	0.04	0.00	− 6.50	3.3	+0.4	59	− 3
South Pacific	70.6	+0.7	+12.3	0.02	0.00	+ 2.50	2.7	0.0	66	+ 2

WEATHER CONDITIONS OVER THE NORTH ATLANTIC DURING JULY, 1917.

The data presented are for July, 1917, and comparison and study of the same should be in connection with those appearing in the REVIEW for that month.

Chart IX (XLVI–63) shows for July, 1917, the averages of pressure, air temperature, water surface temperature, and prevailing direction of the wind at 7 a. m. 75th Meridian Time (Greenwich mean noon).

PRESSURE.

The distribution of the average pressure for the month, as shown on Chart IX, presented no unusual features, as

the North Atlantic, or Azores HIGH, was nearly normal in all respects, and the isobar of 29.85 inches, that marks the southern limit of the Icelandic LOW, was near its usual position.

The pressure changes from day to day were comparatively small over the greater part of the ocean, and the means of the three decades of the month differed but little in southern waters, while north of the 40th parallel the mean for the first decade was somewhat larger than the average of the last 21 days, as shown in the following table, which gives for a number of 5-degree squares the average pressure for each of the three decades of the month, as well as the highest and lowest individual readings reported within the respective squares.

Pressure over the North Atlantic Ocean during July, 1917, by 5-degree squares.

Position of 5-degree square.		Decade means.			Extremes.			
					Highest.		Lowest.	
Latitude.	Longitude.	I.	II.	III.*	Pressure.	Date.	Pressure.	Date.
°	°	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*July.*	*Inches.*	*July.*
60–65 N	20–25 W	30.08	29.82	29.80	30.42	3	29.58	15
60–65 N	0– 5 E	30.23	29.92	29.97	30.43	4	29.60	16
55–60 N	35–40 W	29.89	29.84	29.73	30.11	10	29.60	15, 28
55–60 N	10–15 W	30.14	29.84	29.97	30.32	4	29.56	26
50–55 N	55–60 W	29.99	29.89	29.79	30.20	8	29.48	29
50–55 N	25–30 W	29.97	29.82	29.87	30.19	10	29.67	17
50–55 N	0– 5 E	30.09	30.02	30.06	30.30	12	29.80	8, 19
45–50 N	65–70 W	30.00	29.89	29.90	30.20	7, 25	29.67	12
45–50 N	40–45 W	30.01	30.01	29.90	30.20	5	29.76	3
45–50 N	10–15 W	30.11	30.04	30.11	30.32	1	29.86	7
40–45 N	50–55 W	30.11	30.13	30.06	30.31	20	29.83	31
40–45 N	25–30 W	30.19	30.10	30.16	30.32	30	30.00	11, 16, 21
35–40 N	75–80 W	30.01	30.02	30.04	30.24	20	29.68	11
35–40 N	35–40 W	30.29	30.23	30.23	30.40	5, 25	30.02	27
35–40 N	10–15 W	30.13	30.17	30.14	30.30	10	29.99	6
30–35 N	50–55 W	30.28	30.25	30.20	30.42	3	30.00	10
30–35 N	25–30 W	30.29	30.23	30.25	30.40	9	30.10	20
25–30 N	90–95 W	29.99	29.99	30.04	30.12	30	29.90	11
25–30 N	60–65 W	30.17	30.22	30.18	30.31	1, 14	30.00	8
25–30 N	15–20 W	30.13	30.15	30.14	30.30	26	30.00	1
15–20 N	35–40 W	30.03	30.04	30.03	30.19	6	29.98	12, 24
10–15 N	80–85 W	29.90	29.88	29.92	29.98	26	29.82	20

* Mean of last 11 days of the month.

The mean and extreme values presented in the above table are based on the pressure for each square on the M. S. daily synoptic charts of the North Atlantic compiled by the marine section of the Weather Bureau.

GALES.

The most remarkable feature of the month was the absence of winds with gale force. On only one day was a fresh gale reported; it occurred on the 12th when a vessel near latitude 32° 30′, longitude 71° 30′ encountered a southwesterly gale of 48 miles an hour. The northern steamer lanes were remarkably free from heavy weather, as north of the 40th parallel winds with a velocity as high as 40 miles an hour were recorded on only three days. In southern waters high winds were somewhat more frequent, although velocities of over 35 miles an hour were observed at only widely scattered points, and there were no signs of tropical hurricanes.

On July 1 and 2 a LOW of slight intensity covered a large portion of eastern Canada and the Gulf of St. Lawrence, moderate winds and fog prevailing along the coast between St. Johns, N. F., and Boston. From the 3d to the 6th this LOW covered a large territory between the 25th meridian and the American coast north of the 50th parallel. The conditions remained about the same as on the 2d, with light to moderate winds and a few scattered reports of fog. On the 8th a moderate LOW surrounded the greater part of the British Isles, extending into the English Channel. Drifting slowly eastward, the center of the LOW was near Yarmouth, England, on the 9th, with light to moderate winds prevailing on both dates.

On the 8th two vessels between the Island of Haiti and the Barbados, encountered westerly winds of 40 miles an hour, although there was no well-developed depression in that region and vessels near by reported only moderate velocities.

On the 11th there was a slight disturbance central near Norfolk, Va.; it drifted slowly along the coast in a northeasterly direction, accompanied by light to moderate winds and fog, and on the 15th was off the coast of Labrador. On the 16th and 17th a large but shallow depression extended over the greater part of the eastern division of the steamer lanes; it increased somewhat in intensity, and on the 18th the center was near the north coast of Ireland, where the barometer reading was 29.59 in. This LOW continued in its slow easterly movement, and on the 19th covered the North Sea, extending into the Scandinavian Peninsula on the north. The usual moderate weather probably prevailed, although it was impossible to determine the conditions accurately on account of lack of observations.

From the 22d to the 24th the northern division of the ocean was occupied by a large, poorly defined LOW of slight intensity. By the 25th it had assumed more definite proportions, the center being near latitude 58°, longitude 31°, where the barometer reading was 29.68 inches. Like the other depressions of the month it was of slight intensity.

From the 27th to the 29th there was a LOW over the territory between St. Johns, N. F., and the south coast of Greenland. On the latter date vessels in the eastern and southern quadrants encountered winds of 40 miles an hour, and fog prevailed off the banks of Newfoundland. This disturbance drifted slowly southward, and on the 31st extended to the 40th parallel, the force of the wind having lessened somewhat since the 29th.

AIR TEMPERATURE.

The average monthly temperature of the air over the ocean, as compared with the normal, varied considerably in different localities. Over the greater part of the northern steamer lanes, and in the northeast trade wind region, the temperatures were above the normal, the departures ranging from 1° to 5°. In the region between the 30th and 45th parallels and the 40th meridian and the American coast, as well as in the Caribbean Sea and the Gulf of Mexico, it was somewhat colder than usual, negative departures of from 1° to 4° prevailing.

As usual in July, the daily fluctuations in temperature were not large. In the 5° square that includes St. Johns, N. F., where the greatest variations occurred, the temperature ranged from 49° on the 2d to 60° on the 19th.

The following table gives the temperature departures for the month at a number of Canadian and United States Weather Bureau stations on the Atlantic and Gul coasts.

	°F.		°F.
St. Johns, N. F.	−0.1	Norfolk, Va.	−1.2
Chatham, N. B.	+1.0	Hatteras, N. C.	−0.2
Halifax, N. S.	+1.5	Charleston, S. C.	−0.5
Eastport, Me.	−1.4	Key West, Fla.	−0.3
Portland, Me.	+0.8	Tampa, Fla.	+1.9
Boston, Mass.	+2.0	Mobile, Ala.	+0.9
Nantucket, Mass.	0.0	New Orleans, La.	+1.3
Block Island, R. I.	+0.3	Galveston, Tex.	+0.3
New York, N. Y.	+0.6	Corpus Christi, Tex.	−0.5

WATER SURFACE TEMPERATURE.

The average monthly temperature of the surface water, when compared with the normal, did not show departures

varying materially from those of the air over the greater part of the ocean. In the northeast trade wind region and Gulf of Mexico the departures were rather irregular, ranging from −1° to +4°; south of the 25th parallel and between the 40th and 80th meridians the water temperatures were practically normal.

The greatest daily fluctuations occurred in the square between latitude 40°–45°, longitude 55°–60°, where the water thermometer readings ranged from 50° on the 1st to 70° on the 23d and on the last three days of the month.

FOG.

Off the banks of Newfoundland the normal percentage of days on which fog is observed during July ranges from 50 to 55. For the month under discussion it prevailed in that region on 12 days, a percentage of 39, while the maximum amount occurred in the square between latitude 40°–45°, longitude 60°–65°, where it was reported on 22 days, a percentage of 71.

Over the steamer lanes fog was somewhat below the normal; while at the Azores, where it seldom occurs, it was observed on two days.

Winds of 50 mis./hr. (22.4 m./sec.) or over, during July, 1918.

Station.	Date.	Velocity.	Direction.	Station.	Date.	Velocity.	Direction.
Buffalo, N. Y.	1	60	sw.	Pocatello, Idaho	8	50	s.
Ellendale, N. Dak.	20	52	sw.	Point Reyes Light,			
Do.	21	53	n.	Cal.	9	58	nw.
El Paso, Tex.	19	50	ne.	Do.	12	54	nw.
Hatteras, N. C.	12	50	nw.	Do.	21	61	nw.
Mount Tamalpais,				Do.	23	53	nw.
Cal.	21	54	nw.	Do.	25	50	nw.
Do.	22	52	nw.				
Do.	23	55	nw.				

CONDENSED CLIMATOLOGICAL SUMMARY.

In the following table are given for the various sections of the climatological service of the Weather Bureau the monthly average temperature and total rainfall; the stations reporting the highest and lowest temperatures, with dates of occurrence; the stations reporting the greatest and least total precipitation; and other data as indicated by the several headings.

The mean temperature for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course the number of such records is smaller than the total number of stations.

Condensed climatological summary of temperature and precipitation by section, July, 1918.

Section.	Temperature.								Precipitation.					
	Section average.	Departure from the normal.	Monthly extremes.						Section average.	Departure from the normal.	Greatest monthly.		Least monthly.	
			Station.	Highest.	Date.	Station.	Lowest.	Date.			Station.	Amount.	Station.	Amount.
	°F.	°F.		°F.			°F.		In.	In.		In.		In.
Alabama	78.1	−1.9	Thomasville	104	7	St. Bernard	48	13	3.87	−1.28	Robertsdale	7.42	Cochrane	1.32
Arizona	78.0	0.0	Aztec	120	28†	Fort Valley	34	13	2.12	−0.29	Fort Valley	7.85	Mohawk	0.00
Arkansas	79.6	−0.1	Bee Branch	111	25	Eureka Springs	49	1	1.53	−2.53	Mountain Home	5.08	Conway	0.06
California	71.5	−2.5	Greenland Ranch	120	4†	2 stations	29	13†	0.07	+0.03	Tamarack	1.58	118 stations	0.00
Colorado	68.6	−0.3	Sedgwick	110	3	Fraser	26	1	2.69	+0.52	Willard	7.06	Leadville	0.28
Florida	80.2	−1.2	Wausau	101	6	Hilliard	57	10	5.50	−1.71	Orlando	12.30	Sand Key	1.20
Georgia	78.1	−1.7	3 stations	103	6†	2 stations	48	13	4.78	−0.92	Savannah	8.94	Lumber City	2.10
Hawaii (June)	73.0	0.0	2 stations	94	10†	2 stations	51	3†	4.92	+0.22	Eke, Maui	30.50	5 stations	0.00
Idaho	67.6	+1.2	2 stations	111	18	Stanley	15	1	0.96	+0.10	Spencer	5.04	Sunnyside	0.00
Illinois	73.8	−2.1	2 stations	105	26†	Mt. Carroll	42	31	2.38	−1.23	Galva	5.35	Sparta	0.11
Indiana	72.3	−3.0	Bedford	102	4†	Valparaiso	40	31	3.14	−0.40	Butlerville	7.96	South Bend	0.72
Iowa	73.1	−1.0	Clarinda	105	28	Audubon	49	1	3.17	−0.79	Postville	8.05	Albia	0.26
Kansas	78.3	+0.6	Abilene	110	25	Dresden	45	1	2.53	−1.13	Norton	7.67	Clyde	0.28
Kentucky	73.8	−2.9	Paducah	103	26	Eubank	46	9	3.28	−1.02	Cloverport	8.25	Mayfield	0.43
Louisiana	82.4	+0.7	Monroe	109	25	Kelly	51	3	3.16	−3.26	Schriever	9.30	Shreveport	T.
Maryland-Delaware	72.6	−2.7	2 stations	99	21†	Oakland, Md.	38	3	3.05	−1.17	Sudlersville, Md.	5.14	Public Landing, Md	0.60
Michigan	66.9	−2.0	2 stations	100	22†	Roscommon	26	1	1.73	−1.11	Grand Marais	5.24	Adrian	0.24
Minnesota	68.0	−0.7	New London	103	19	Duluth	32	8	3.35	−0.20	New Richland	7.02	Duluth	1.23
Mississippi	79.7	−1.2	Cleveland	106	26	2 stations	52	2†	2.73	−2.58	Leaksville	6.96	Austin	0.51
Missouri	77.1	+0.2	Harrisonville	110	27	Cassville	41	1	1.76	−2.49	Grant City	4.94	Jackson	0.21
Montana	65.8	+0.4	Crow Agency	104	3	Bowen	18	4	1.95	+0.49	Pinegrove	7.79	Valentine	0.23
Nebraska	74.3	−0.2	Holdrege	110	8	Gordon	36	1	3.17	−0.26	Hershey	7.70	Hastings	1.10
Nevada	72.9	−0.5	Logandale	112	29	Tecoma	21	5	0.33	−0.10	Smith	2.50	12 stations	0.00
New England	68.8	−0.3	Amherst, Mass.	100	22	Somerset, Vt.	35	2	3.46	−0.13	Patten, Me.	9.60	Vernon, Vt.	0.90
New Jersey	72.2	−1.4	Elizabeth	101	22	Layton	39	3	3.93	−0.90	Long Branch	13.60	Cape May	1.20
New Mexico	72.5	+0.2	Artesia	107	11	Elizabethtown	31	28	2.43	−0.28	Nogal	7.28	Glorieta Ranch	0.27
New York	68.9	−0.8	Troy	103	23	Indian Lake	34	3	3.33	−0.37	Gloversville	6.88	Elmira	0.66
North Carolina	73.0	−3.5	Lincolnton	103	5	Highlands	39	13	5.52	−0.37	Newbern	12.11	Brevard	1.42
North Dakota	65.5	−2.0	Grand Rapids	102	20	2 stations	34	5†	2.71	+0.10	Energy	6.08	Westhope	0.53
Ohio	71.3	−2.3	Paulding	101	21	3 stations	38	2†	2.61	−1.56	New Carlisle	6.21	Vickery	0.36
Oklahoma	82.1	+1.3	Mutual	111	15	Jefferson	50	1	1.38	−1.74	Hurley	5.56	2 stations	T.
Oregon	67.0	+1.1	Echo	111	17	Lapine	20	3†	0.66	+0.11	Hilgard	2.82	4 stations	0.00
Pennsylvania	70.1	−1.6	4 stations	99	21†	Mt. Pocono	35	3	3.05	−1.09	Mt. Pocono	9.96	Shawmont	0.77
Porto Rico	78.7	−0.1	Isabela	96	28	Rio Piedras	58	29	5.40	−1.14	Maricas	14.75	Ponce	0.48
South Carolina	77.5	−2.3	Little Mountain	103	6	Santuck	50	8	5.02	−0.60	Bowman	9.70	Columbia	1.15
South Dakota	70.1	−0.8	Bellefourche	105	31	McIntosh	33	26	3.20	+0.59	Mitchell	5.69	McIntosh	0.43
Tennessee	74.7	−2.4	Clarksville	102	4†	2 stations	42	3†	3.07	−1.07	Copperhill	8.77	Union City	0.68
Texas	84.8	+2.3	3 stations	111	9†	Brownfield	52	1	1.05	−1.78	Port Arthur	6.48	9 stations	0.00
Utah	69.7	−0.4	St. George	108	29†	Black's Fork	28	25	1.61	+0.56	Trout Creek R. S.	5.01	Lemay	0.17
Virginia	71.7	−3.7	3 stations	98	22†	Burkes Garden	39	3	3.50	−0.81	Blacksburg	8.26	Richmond	1.05
Washington	66.8	+0.6	Wahluke	115	16	Paradise Inn	30	3	1.12	+0.31	Wallace	3.38	Mary Hill	0.00
West Virginia	70.3	−3.1	Wheeling	101	28	Bluefield	38	3	3.18	−1.19	Grafton	6.90	Breading	1.04
Wisconsin	67.8	−1.4	2 stations	100	12†	Big St. Germain Dam	29	31	2.71	−1.28	Prairie du Chien	7.32	Plum Island	0.49
Wyoming	64.1	−0.3	2 stations	102	31	Foxpark	18	1	2.13	+0.92	Burns	5.74	Hyattville	0.40

† Other dates also.

DESCRIPTION OF TABLES AND CHARTS.

(*See* this REVIEW, January, 1918, p. 48.)